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AUSTRALIA

STRATEGY FOR PREPARING FOR THE IMPLEMENTATION OF THE CHEMICAL WEAPONS CONVENTION IN AUSTRALIA

Chemical Weapons Convention

The Chemical Weapons Convention is an international agreement being negotiated by the Conference on Disarmament, Geneva. The Conference is a multilateral forum comprising 40 member States as well as countries with observer status. Australia is represented on the Conference by a permanent delegation. Responsibility for negotiating the text of the Convention rests with the Ad hoc Committee on Chemical Weapons.

The draft Convention, known as the Rolling Text, is updated twice a year to take into account progress in the negotiations. The latest version is that of 10 August 1990 (CD/1033).

The Convention will ban the production and use of chemical weapons. By signing the Convention a State Party will undertake not to "develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone". As well, States Parties possessing chemical weapons and chemical weapons production facilities are required to destroy them.

The Convention includes in the definition of chemical weapons certain toxic chemicals, precursors and related delivery systems. The Convention identifies and categorises groups of chemicals according to the risk they pose to the Convention. They are listed in three schedules. Schedule 1 includes "super-toxic lethal chemicals". Schedule 2 includes chemicals which are key precursors to Schedule 1 chemicals and toxic chemicals which pose a significant risk to the Convention. Schedule 3 comprises dual (military and civil) purpose chemicals and other precursors. Some Schedule 2 chemicals have industrial applications; many Schedule 3 chemicals are used in large quantities in the chemical industry (the Schedules are set out in Appendix 1).

The Convention will not prohibit the production, use and transfer of toxic chemicals and their precursors for industrial, agricultural, research, medical or other peaceful purposes, domestic law enforcement, military purposes not connected with the use of chemical weapons and purposes directly related to protection against chemical warfare.

Production, use and transfer of Schedule 1 chemicals, up to a threshold level of 10 kg per year per facility, will be permitted at approved facilities for research, medical, pharmaceutical or protective purposes. Schedule 2 chemicals come under the purview of the Convention if produced, used or transferred above a yet to be defined threshold quantity. The threshold for Schedule 3 chemicals will be considerably higher than that for Schedule 2 chemicals.

The Convention will establish a system of verification involving:

- declarations by signatories specifying any chemical weapons and production facilities that they possess;
- declarations specifying destruction plans for both chemical weapons and facilities;
- initial declarations followed by annual declarations indicating the quantities of Schedule 1 chemicals produced, consumed and transferred in the previous year and anticipated production in the coming year;
- initial declarations followed by annual declarations specifying the quantities of Schedule 2 and 3 chemicals produced, consumed and transferred;
- on-site inspections and on-site monitoring by instruments of facilities producing, processing or consuming permitted quantities of Schedule 1 chemicals by international teams to verify that declarations are accurate. After initial familiarization visits routine inspections of Schedule 1 facilities may take place;
- on-site inspections of facilities producing, processing or consuming above a threshold quantity of Schedule 2 chemicals by international teams to verify that declarations are accurate. After initial familiarization visits routine inspections of Schedule 2 facilities may take place;
- the Convention will also contain provisions for inspections by the International Organization on the request of other Governments and inspections without notice.

The Convention will establish an international organization responsible for monitoring destruction programmes, for collecting, monitoring and analysing data on the production, consumption and transfer of chemicals relevant to the Convention, and for undertaking routine, ad hoc and on request on-site inspections of chemical production facilities.

The Convention requires the signatory to establish a parallel National Authority responsible for liaison with the International Organization, for collecting and providing specified data on chemicals, for providing assistance in the conduct of international on-site inspections, and for providing other assistance such as expertise, information and laboratory support.

The Convention in Australia

Australia does not possess any chemical weapons. But it does produce chemicals for civil purposes that could also be used in chemical weapons

manufacture. It will be required under the Convention to enact legislation and to develop administrative machinery to enable annual reporting of data on the chemicals relevant to the Convention which are produced, consumed, imported or exported and to facilitate regular access by international inspection teams to relevant Australian facilities.

It is expected that the main thrust of Australia's effort under the Convention will be reporting data on Schedule 3 chemicals, to a lesser extent reporting data on Schedule 2 chemicals, and assisting the International Organization to inspect facilities which produce Schedule 2 chemicals.

When the Convention comes into effect a number of actions will be required of the States parties within a very short space of time. In effect machinery to implement the Convention will need to be in place well before the Convention enters into force.

To date Australia has played a leading role in the chemical disarmament field. Recent examples include the Government sponsored regional initiative to familiarize countries of South-East Asia and the South Pacific with the objectives of the Convention and to engender support for it. The Government also sponsored the international Government-Industry Conference against Chemical Weapons held in Canberra in September 1989 which, for the first time, brought together the Convention's negotiators and representatives of the world's chemical industry. The Conference resulted in a statement by the international chemical industry strongly supporting the objectives of the Convention. Australia also assisted in organizing an international meeting of chemical industry representatives and a meeting of industry representatives with the negotiators from the Conference on Disarmament's Committee on Chemical Weapons in June 1990.

Conscious of the extensive preparations that are required and keen to continue to demonstrate its commitment to bringing the negotiations to a successful conclusion the Government has established a National Chemical Weapons Convention Secretariat in the Department of Foreign Affairs and Trade. The first task of the Secretariat was to develop a strategy to prepare Australia for implementation which is set out in this paper. The strategy comprises a programme of consultation and research leading to the development of a package of implementation measures to be considered by the Commonwealth Government at the appropriate time.

The Australian Government is committed to achieving a Chemical Weapons Convention. While negotiations on the details of the Convention are continuing, the broad framework of the Convention is set. Prospects for a speedy conclusion are good.

The task ahead is to develop an effective national implementation framework. This strategy sets out to do this. A draft was developed on the basis of an analysis of the Rolling Text along with discussions with some of the relevant parties. The draft was then, over a period of six months, circulated for comment to State and Territory Governments, industry, unions, and relevant Commonwealth departments and agencies. To conclude the process the draft strategy was considered and endorsed by the Commonwealth interdepartmental committee on the implementation of the Convention which met for the first time in September 1990. The strategy was finalized in October after having been revised to take into account the views expressed throughout the consultative process.

Objectives

The objectives of the strategy are:

- to develop a legislative and administrative framework to enable Australia to implement the Chemical Weapons Convention
- to prepare documentation to enable declarations under Articles III to V relating to the transfer and receipt of chemical weapons and of equipment for production, since either 1946 or 1975 (the date has yet to be agreed) to be made
- to assemble data to enable declarations to be made in relation to Article VI relating to the production, processing, consumption and transfer of chemicals listed in Schedules 1, 2 and 3 and to facilities which produce and consume these chemicals
- together with the Australian Bureau of Statistics and the Australian Customs Service initiate work to modify the Harmonized Tariff Classification to enable imports and exports of chemicals relevant to the Convention to be identified and data collected
- to reach broad agreement (between Commonwealth agencies, with State and Territory Governments, with industry and with unions) on the powers and functions of a National CWC Authority, on the associated consultative arrangements, and on the scope of enabling legislation. This would need to consider, among other matters:
  - confidentiality provisions for industry
  - the powers required for any national verification measures
- to promote harmonization and rationalization of data reporting requirements for the chemical industry across the government regulatory agencies involved
- to prepare for initial international inspections of any Australian facility producing Schedule 1 and 2 chemicals including preparing draft inspection agreements between the National Authority, the International Organization, and the management of each facility
- to explain to industry, unions and other affected institutions the requirements of international inspections
- to participate in further on-site inspections with institutions not previously covered for the purposes
  - of developing and demonstrating the workability of CWC procedures and thereby building confidence in it
  - of enhancing procedures for conducting international inspections
- to develop and communicate to industry, companies and other affected institutions likely routine data requirements

- to develop a register of Australian experts and potential international inspectors to provide such expert assistance as may be required by the International Organization

- to develop a national register of relevant production facilities to enable ad hoc verification encompassing both facilities producing CWC relevant chemicals and facilities capable of producing CWC relevant chemicals

- to address the need for national verification measures, and to develop such measures, to establish to a sufficient level the National Authority's confidence in the compliance by other Australian bodies with the Convention. This would need to address:

  - the need for data over and above CWC data reporting requirements

  - the need for a system of national ad hoc inspections with corresponding guidelines for the conduct of inspections

  - the development of a national inspectorate

  - any additional measures

In the course of working towards these objectives:

- to consult closely with industry, unions, State and Territory Governments and relevant Commonwealth agencies in developing the legislative and administrative framework for the implementation of the Convention

- to disseminate information about the Convention to key players and the public to promote understanding of the Convention and of Australia's implementation measures

- to assist the Geneva negotiation process and to stimulate similar preparatory work by other Governments through the provision of information relating to the Australian implementation experience.

Description and elaboration of objectives

(1) Declarations under Articles III to V

The declarations encompass: information about the transfer or receipt by Australia of any chemical weapons since 1946 or 1975; information about the transfer or receipt by Australia of any chemical weapons production equipment since 1946 or 1975; details of any chemical weapons production facility in Australia since 1946 or 1975; details of any chemical weapons destruction programme since 1946 or 1975.

This will require an update of Australia's previous data declaration (CD/907) as well as documentation of the measures taken by Australia to establish the record in relation to the above.

This would possibly involve:

- an archival search by the Department of Defence and the services;

. a census of Defence force sites, informed in part by the archival search;

. documentation of the process and results of these activities.

(2) Data reporting in relation to Schedules 1, 2 and 3

Under the three Schedules data is required about listed chemicals and about facilities producing, consuming, importing, exporting and possibly trading in these chemicals.

This requires:

. definition of the list of chemicals about which data is to be collected. Considerations are:

  - current schedules are not sufficiently specific (they include "families" of chemicals: individual chemicals need to be identified to enable effective monitoring)

  - the inclusion of chemical weapons precursors subject to Australian Government export controls which do not appear on the CWC schedules (these chemicals are listed in Appendix 2)

  - the inclusion of chemicals over and above those covered in the previous two points which the National Authority may wish to monitor

. once the list has been defined and the existing data sources reviewed, a survey to obtain the additional data needed for the initial declarations

  - this will require consultation with industry and companies about survey design

  - the survey will need to encompass defence laboratories, universities and other research institutions for Schedule 1 chemicals for uses not prohibited by the Convention as well as the civil industry

. prior to the design of this survey (by way of background to it, input into its design and to avoid duplication), existing data available from other sources about chemicals relevant to the Convention needs to be assembled

  - presence on the Australian Inventory of Chemical Substances; listing in the Australian Chemical Industry Council's directory and other directories; coverage under States' Dangerous Goods legislation

  - Customs import and export data for 1989 (country of origin, country of destination, quantities and value, Australian state of destination and origin)

  - ABS data on local production and chemical producing facilities

  - State Government data on chemicals and production facilities

. the Harmonized Tariff Classification used by the Australian Bureau of Statistics to process and classify Australian Customs Service data does not enable chemicals to be identified at the level required

- Australia will be required to report import and export data on CWC relevant chemicals including quantities, countries of origin and destination

- this will require modification of the Harmonized Tariff Classification to facilitate this

- discussions with ABS and ACS will need to take place to achieve such an outcome.

(3) Powers/functions of the National Authority and Scope of Legislation

The legislation will outlaw the development, production, import or export of chemical weapons, chemical weapons precursors, related munitions and devices and specifically designed equipment.

It will also establish the National Authority required by the Convention and any advisory arrangements, such as the proposed Advisory Council, deemed appropriate.

The legislation will need to cover: data reporting, access to sites for international inspections of the various kinds (routine, ad hoc, on request), assistance to the International Organization, powers in relation to national verification measures (for instance national inspections), future amendments to the list of toxic chemicals covered by the Act, sanctions for behaviour contrary to the Act, and its extra-territorial application. Depending on the final Convention, it may also need to cover powers relating to the installation of on-site monitoring instruments in facilities producing Schedule 1 and 2 chemicals.

This requires:

. review of related Commonwealth legislation covering the chemical industry

. identification of "model" legislation (on which the CWC legislation could draw)

. liaison and consultation with directly affected agencies (e.g. Customs and States)

. possibly identification and review of State legislation for background, legislative models, and examining the possibility of working through State legislation

. consultation with the Attorney-General's Department.

(4) Preparations for inspection

Facilities producing, processing and consuming Schedule 1 and 2 chemicals will be subject to routine on-site inspection, to commence when the Convention enters into force.

Preparatory work which can be done before then includes:

- identification of facilities which would be subject to routine inspection and which would need to be covered in the inspection agreements between the International Organization, the National Authority and each facility (facilities would be identified through data collection activities on the production of chemicals)

- development of draft inspection agreements between the three parties identified above and of guidelines for the conduct of inspections with appropriate consultation with industry, individual companies, unions and other affected institutions

- definition of responsibilities between parties (National Authority, international team, facilities)

- facilitating the development of practicable inspection procedures for the full range of institutions (e.g. military installations) through preliminary consultations possibly followed by additional trial inspections

- communicate likely data requirements of the international inspection team to facilities and to State and Territory Governments

- collection of background information on facilities including the presence of on-site laboratory facilities, for the National Authority

- identification of the practical requirements of the inspection team and development of guidelines and procedures to meet these

- development of arrangements for alternative, off-site laboratory analysis where this may be required

- establish the nature of the States' existing inspection régimes and practice as a possible basis for Commonwealth legislative provisions to underpin the inspection agreements between the International Organization, the National Authority, and the management of each facility.

Preparation may require a round of preliminary inspections or consultations with relevant facilities by the National Authority/Secretariat to obtain necessary data prior to the first round of inspections by the International Organization.

Government departments responsible for facilities which may be subject to inspection by the International Organization will need to consider what procedures they will need to put in place to ensure Australia's fullest possible compliance with its obligations under the Convention to accept and facilitate inspections.

(5) <u>Communicate likely routine data requirements to industry and other institutions</u>

Industry and other affected institutions need to know as quickly as possible what data will be required on an on-going basis.

The proposed survey can be a vehicle for establishing what data the implementation of the Convention will require on an on-going basis and the best form of providing this.

This assumes that alternative sources of data or alternative data collection agencies, e.g. State bodies, do not collect the necessary data.

(6) Register of Technical and Scientific Experts

This is required for two levels: international and national.

Under the Convention the National Authority may be requested to provide a range of assistance and expertise to the International Organization.

Preliminary work towards developing an Australian capacity in the relevant expertise could include:

- identifying individuals suitable for recruitment as international inspectors (for the International Organization's Technical Secretariat)
- experts for the National Authority: development of a national inspectorate capacity (if required under national verification measures)
- providing training for such personnel
- providing training for the region
- identifying individuals suitable for appointment to the International Organization's Scientific Advisory Board

(7) Register of Facilities

The data collection activities will need to identify not only facilities producing CWC relevant chemicals but also facilities capable of producing CWC relevant chemicals and thus of interest to the National Authority for future monitoring.

This register possibly could draw on or be modelled on data about facilities collected by the States for other purposes.

The register will provide the basis for, inter alia:

- contacting companies and other institutions on an annual basis for data reporting
- identification of the facilities with whom agreements would need to be negotiated for the purposes of international inspections
- international ad hoc verification and possibly inspections without notice conducted by the National Authority.

(8) Consultation and information

Regular and ongoing consultation with industry, with unions, with State and Territory government agencies and with other departments and agencies of

the Commonwealth is an underlying principle of the preparatory process. It is important that development of the implementation framework is based upon a sound understanding of what the Convention will require from Australia and upon substantial agreement between the parties about the measures the Government is proposing to put in place.

Regular consultation and exchange of information are also important to establish good communication and working relations between the Secretariat, other government agencies, companies and other affected institutions to ensure that essential information flows to the National Authority once it is established.

As well as one-to-one consultation between the Secretariat and other agencies a number of formal consultative mechanisms will be established:

- an inter-departmental committee at Commonwealth level on the implementation of the Convention

- a Consultative Group comprising representatives of industry (employers and unions), State and Territory Governments and Commonwealth departments.

(9) Assisting other Governments and the Geneva Negotiations

The Secretariat will feed its experience in preparing for implementation of the Convention into the Geneva process by contributing its perspective where appropriate and by seeking comment from Geneva as required.

Hungary has recently tabled a paper at the Conference on Disarmament providing information about Schedule 2 and 3 chemicals and facilities. Through the Secretariat's data collection activities Australia will be able to table a similar paper.

The Secretariat will prepare implementation progress reports at regular intervals.

Where appropriate Secretariat papers will be made available to other governments to stimulate preparations for implementation by other countries.

The preparation programme: priority tasks and activities

The time scale - and deadline - for the programme is dependent upon progress with the chemical weapons negotiations. The programme has been divided into a number of sequential stages, commencing in April 1990.

(1) Preliminary: Establishment period

(2) Stage 1: Strategic planning and data collection

(3) Stage 2: Preparations for inspection

(4) Stage 3: Establishment of the National Authority

Preliminary: Establishment period

This covers setting up of the National Secretariat, related information and publicity, familiarization and establishing contact with relevant agencies.

Stage 1: Strategic planning and data collection

This covers the development of this strategy, consultations to discuss and obtain responses to the strategy, specification and definition of CWC relevant chemicals, collection and review of existing data about the relevant chemicals and facilities, and the design and implementation of the survey to collect additional data from industry.

It also embraces a number of concurrent activities: for example, the proposed Defence review of Australian chemical weapons activity since 1946 or 1975; and the review of the regulatory framework.

Specification of tasks:

1. Development of a strategy on preparing for implementation of the Convention in Australia

Purpose: to provide the framework for the implementation of the Convention in Australia from the establishment of the Secretariat through to the establishment of the Authority and/or signing of the Convention.

The Strategy would be considered by the IDC, would be provided to industry and the States for comment and information and, if desired, would be tabled at Geneva as the Australian model.

2. Specification and definition of CWC-relevant chemicals

All implementation activity (data reporting, inspection) is dependent upon agreement about which chemicals to monitor. This requires:

- an elaboration or specification of the CWC schedules in terms of CAS numbers (so that they are readily identifiable)

- the identification of any other, additional chemicals which the Authority may wish to monitor.

Chemical weapons precursors subject to the Australian Government's export controls will be included in the data collection exercise.

The Commonwealth Government's main source of scientific expertise on the technical aspects of chemical disarmament, Materials Research Laboratory (MRL) will advise on these issues. It is envisaged that MRL will provide the technical advice required by the National Secretariat throughout the preparatory period.

3. Review of existing data

Purpose: to avoid collecting data which may already be available, and to provide background information on the chemical industry in Australia.

The existing data sources about chemicals produced and traded in Australia are:

. ACIC Directory, the Etonwood Directory and the Worksafe Australian Inventory of Chemical Substances

. Customs import and export data classified by the ABS in terms of the Combined Australian Customs Tariff and Statistical Nomenclature (imports) and the Australian Harmonized Export Commodity Classification (exports). To make use of this data the agreed list of CWC relevant chemicals needs to be assigned to the harmonized tariff classification.

There are two minor ABS databases which provide some limited data on production and on production facilities

. data about facilities and chemicals collected by the States especially under Dangerous Goods and Environmental Protection legislation.

While none of these data sources has been fully explored as yet it is unlikely that they will yield sufficient data to render an additional data collection exercise unnecessary. Its extent will be determined by what these other sources yield.

4. Extension of the harmonized tariff classification

Purpose: to enable Australia to make declarations about imports and exports of Schedule chemicals.

The Classification groups chemicals at a higher level of generality than that which is required by the Convention.

The Classification does however have the capacity to be modified to more specific levels.

Customs data is processed into this Classification by the Australian Bureau of Statistics.

To modify the Classification will require the co-operation and agreement of both ABS and ACS. It presupposes a well-defined and agreed list of chemicals.

5. Chemical industry survey

Purpose: to provide the additional data required to enable Australia to make initial declarations about the production, consumption, import and export of Schedule 1, 2 and 3 chemicals, about the facilities producing these chemicals and to identify the facilities which will be subject to international inspection.

This third aspect (identification of facilities) would provide the basis for the register of facilities. The survey could be designed to encompass facilities capable of producing the relevant chemicals for national monitoring and inspection purposes.

This survey, together with the review of existing data, is the crux of the preparatory exercise. It will provide the hard data for determining the scale of implementation measures required as well as the level of resources required by the Authority.

The survey would need to cover MRL and other research agencies (for Schedule 1) as well as the domestic civil industry.

It also represents the main opportunity in implementation for disseminating information to all the relevant players about the Convention.

6. Defence chemical weapons review

Purpose: to enable Australia to make declarations about the existence of any chemical weapons, transfers and receipt of weapons, production facilities, and equipment since 1946 or 1975 with the greatest degree of confidence about accuracy.

It is envisaged that this review would be undertaken by the Department of Defence.

7. Review of regulatory framework

Purpose: to enable the Secretariat to understand existing Commonwealth and State powers, legislation, regulations and administrative structures relevant to the chemical industry and to CWC implementation.

The main likely outcomes are:

- learning from other legislation for the design of the CWC legislation (consistency)

- making use of existing legislative and administrative provisions to achieve CWC objectives (avoiding duplication)

- obtaining information about data reporting and inspection régimes currently operating (the norms industry operates under already).

State Governments will be invited to provide State overviews of relevant State legislation.

This work, together with the earlier assessment of data routinely collected by State Government agencies, would provide the main empirical basis for any harmonization work.

Stage 2: Preparations for inspection

The data collection exercise will define the pool of facilities to be subject to international inspection and thus the scale of preparation required.

Activities covered in this Stage include:

- development of draft inspection agreements between the National Authority, the International Organization and the management of each facility, associated guidelines for the conduct of inspections, and consultations with industry and unions

- work on the register of facilities (possibly a second stage of the survey)
- development of the register of experts
- development of the forms and extent of assistance to be provided by the National Authority to the international inspection team
- preliminary inspections and collection of information from companies and research agencies to facilitate the work of the international inspection team may prove to be necessary
- discussion with industry and unions about the likely requirements of international inspection teams
- consultation with States about their existing inspection régimes.

As well as preparation for international inspection thinking on national verification measures would need to be developed at this point.

Stage 3: CWC legislation and National Authority

If judged appropriate at the time this would be the stage at which an implementation package would be developed for Government consideration.

This would involve development of a paper setting out the key options covering: CWC legislation; powers, functions, and resources of the Authority; the Advisory Council; and national verification measures.

This would be followed by informal consultation with other departments, States, and industry on the basis of this paper; its refinement and consideration by the IDC; further refinement; and following decisions by the Government, development of legislation.

APPENDIX 1

THE CHEMICAL WEAPONS CONVENTION'S SCHEDULES OF CHEMICALS

Schedule 1 [CAS No.]

1. O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates

   e.g. Sarin: O-isopropyl methylphosphonofluoridate [107-44-8]
   Soman: O-pinacolyl methylphosphonofluoridate [96-64-0]

2. O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates

   e.g. Tabun: O-ethyl N,N-dimethylphosphoramidocyanidate [77-81-6]

3. O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding quaternary ammonium compounds

   e.g. VX: O-ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate [50782-69-9]

4. Sulphur Mustards:

   Mustard gas (H): bis(2-chloroethyl)sulphide [505-60-2]
   Sesquimustard (Q): 1,2-bis(2-chloroethylthio)-ethane [3563-36-8]
   O-Mustard (T): bis(2-chloroethylthioethyl)ether [63918-89-8]
   bis(2-chloroethylthio)methane [63869-13-6]
   1,3-bis(2-chloroethylthio)-n-propane [63905-10-2]
   1,4-bis(2-chloroethylthio)-n-butane [NA]
   2-Chloroethylchloromethylsulphide [2625-76-5]

5. Lewisites:

   Lewisite 1 : 2-chlorovinyldichloroarsine [541-25-3]
   Lewisite 2 : bis(2-chlorovinyl)chloroarsine [40334-69-8]
   Lewisite 3 : tris(2-chlorovinyl)arsine [40334-70-1]

6. Nitrogen Mustards:

   HN1: bis(2-chloroethyl)ethylamine [538-07-8]
   HN2: bis(2-chloroethyl)methylamine [51-75-2]
   HN3: tris(2-chloroethyl)amine [555-77-1]

7. 3-Quinuclidinyl benzilate (BZ) [6581-06-2]

8. Saxitoxin [35523-89-8]

9. Ricin

10. Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluoride

    e.g. DF: methylphosphonyldifluoride [676-99-3]

11. O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) O-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonites and corresponding quaternary ammonium compounds

    e.g. QL: O-ethyl O-2-diisopropylaminoethyl methylphophonite [57856-11-8]

12. O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonochloridates

    e.g. Chloro Sarin: O-isopropyl methylphosphonochloridate [1445-76-7]

    Chloro Soman: O-pinacolyl methylphosphonochloridate [7040-57-5]

13. 3,3-Dimethylbutan-2-ol (pinacolyl alcohol) [464-07-3]

Schedule 2, Part A

1. Chemicals, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms, except for those chemicals listed under Schedule 1.

2. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides

3. Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr or i-Pr)-phosphoramidates

4. Arsenic Trichloride [7784-34-1]

5. 2,2-Diphenyl-2-hydroxyacetic acid [76-93-7]

6. Quinuclidin-3-ol [1619-34-7]

7. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chloride and corresponding quaternary ammonium compounds

8. N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ol and corresponding quaternary ammonium compounds

9. N,N-dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiol and corresponding quaternary ammonium compounds

10. Bis(2-hydroxyethyl)sulphide (thiodiglycol) [111-48-8]

11. 3,3-Dimethylbutan-2-ol (pinacolyl alcohol) [464-07-3]

Schedule 2, Part B

Amiton: O,O-Diethyl S-(2-diethylamino)ethyl) phosphorothiolate [78-53-5]

PFIB: 1,1,3,3,3 - pentafluoro -2- (trifluoromethyl) - 1 - propene [382-21-8]

Schedule 3

1. Phosgene [75-44-5]
2. Cyanogen chloride [506-77-4]
3. Hydrogen cyanide [74-90-8]
4. Trichloronitromethane (chloropicrin) [76-06-2]
5. Phosphorus Oxychloride [10025-87-3]
6. Phosphorus Trichloride [7719-09-7]
7. Phosphorous Pentachloride [10026-13-8]
8. Di- and Trimethyl/Ethyl Esters of Phosphorus (P III) Acid

   e.g.: Trimethyl Phosphite [121-45-9]
   Triethyl Phosphite [122-52-1]
   Dimethyl Phosphite [868-85-9]
   Diethyl Phosphite [762-04-9]
9. Sulphur monochloride [10025-67-9]
10. Sulphur dichloride [10545-99-0]
11. Thionyl Chloride [7719-09-7]

Possible Additions to Schedule 3

1. Phosphorous Sulfochloride [3982-91-0]
2. Triethanolamine [102-71-6]
3. Ethyldiethanolamine [139-87-7]
4. Methyldiethanolamine [105-59-9]

19 October 1990

APPENDIX 2

CHEMICAL WEAPONS PRECURSORS SUBJECT TO AUSTRALIAN EXPORT CONTROLS

Chemical Compound	[CAS No.]
1. Thiodiglycol**	[111-48-8]
2. Phosphorus Oxychloride***	[10025-87-3]
3. Dimethyl Methyl Phosphonate	[756-79-6]
4. Methyl Phosphonyl Difluoride*	[676-99-3]
5. Methyl Phosphonyl Dichloride	[676-97-1]
6. Dimethyl Phosphite***	[868-85-9]
7. Phosphorus Trichloride***	[7719-09-7]
8. Trimethyl Phosphite***	[121-45-9]
9. Thionyl Chloride	[7719-09-7]
10. 3-Hydroxy-1-Methylpiperidine	[3554-74-3]
11. n,n-Diisopropyl-2-Aminoethyl Chloride	[96-79-7]
12. n,n-Diisopropyl-2-Aminoethane Thiol	[5842-07-9]
13. 3-Quinuclidinol**	[1619-34-7]
14. Potassium Fluoride	[7789-23-3]
15. 2-Chloroethanol	[107-07-3]
16. Dimethylamine	[124-40-3]
17. Diethyl Ethylphosphonate	[78-38-6]
18. Diethyl-n, n-Dimethylphosphoramidate	[2404-03-7]
19. Diethyl Phosphite***	[762-04-9]
20. Dimethylamine Hydrochloride	[506-59-2]
21. Ethyl Phosphinyl Dichloride	[1498-40-4]
22. Ethyl Phosphonyl Dichloride	[1066-50-8]
23. Ethyl Phosphonyl Difluoride	[753-98-0]
24. Hydrogen Fluoride	[7664-39-3]
25. Methyl Benzilate	[76-89-1]
26. Methyl Phosphinyl Dichloride	[676-83-5]
27. n,n-Diisopropyl-2-Amino Ethanol	[96-80-0]
28. Pinacolyl Alcohol*,**	[464-07-3]
29. QL (O-Ethyl-2-Diisopropylamino-ethyl Methylphosphonite)*	[57856-11-8]
30. Triethyl Phosphite***	[122-52-1]
31. Arsenic Trichloride**	[7784-34-1]
32. Benzilic Acid (2,2-Diphenyl-2-Hydroxyacetic Acid) (2,2-Diphenyl-glycolic Acid)**	[76-93-7]
33. Diethyl Methylphosphonite	[15715-41-0]
34. Dimethyl Ethylphosphonate	[6163-75-3]
35. Ethyl Phosphinyl Difluoride (Ethyl Phosphonous Difluoride)	[430-78-4]
36. Methyl Phosphinyl Difluoride (Methyl Phosphonous Difluoride)	[753-59-3]
37. 3-Quinuclidone	[3731-38-2]
38. Phosphorus pentachloride	[10026-13-8]
39. Pinacolone (3,3-Dimethyl-2-Butanone)	[75-97-8]
40. Potassium Cyanide	[151-50-8]
41. Potassium Bifluoride (Potassium Hydrogen Fluoride)	[7789-29-9]
42. Ammonium Bifluoride (Ammonium Hydrogen Fluoride)	[1341-49-7]
43. Sodium Bifluoride (Sodium Hydrogen Fluoride)	[1333-83-1]
44. Sodium Fluoride	[7681-49-4]

45.	Sodium Cyanide	[143-33-9]
46.	Tri-ethanolamine ****	[102-71-6]
47.	Phosphorus pentasulphide	[1314-80-3]
48.	Di-isopropylamine	[108-18-9]
49.	2-Diethylaminoethanol	[100-37-8]
50.	Sodium Sulphide	[1313-82-2]

Notes

* Listed on Schedule 1

** Listed on Schedule 2A

*** Listed on Schedule 3

**** Possible addition to Schedule 3